# ABSTRACT

In an electrostatic head, each of electrostatic actuators includes a diaphragm doubling as or including a first electrode forming a wall surface of a discharge room 5 communicating with a nozzle discharging a drop, and a second electrode opposing the first electrode. The diaphragm is deformed by generating an electrostatic force between the first electrode and the second electrode. electrodes or the second electrodes of the electrostatic actuators are combined electrically. Differently polarized potentials are applied to the first electrode and the second electrode upon discharging the drop.

10

# (19) World Intellectual Property Organization International Bureau



(43) International Publication Date 1 April 2004 (01.04.2004)

PCT

(10) International Publication Number WO 2004/026582 A1

(51) International Patent Classification<sup>7</sup>: 2/055

B41J 2/045,

), (72 (72

(21) International Application Number:

PCT/JP2003/011851

(22) International Filing Date:

17 September 2003 (17.09.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2002-272383

19 September 2002 (19.09.2002) J

(72) Inventor; and

- (75) Inventor/Applicant (for US only): TANAKA, Shinji [JP/JP]; 11-3-301, Kitayamata 3-chome, Tsuzuki-ku, Yokohama-shi, Kanagawa 224-0021 (JP).
- (74) Agent: ITOH, TADAHIKO; 32nd Floor, Yebisu Garden Place Tower, 20-3, Ebisu 4-chome, Shibuya-ku, Tokyo 150-6032 (JP).
- (81) Designated States (national): CN, KR, SG, US.
- (84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

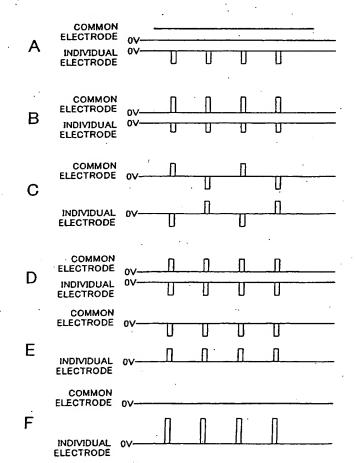
### Published:

with international search report

(71) Applicant (for all designated States except US): RICOH COMPANY, LTD. [JP/JP]; 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 143-8555 (JP).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## (54) Title: HEAD DRIVE CONTROL DEVICE AND INKJET RECORDING DEVICE



(57) Abstract: In an electrostatic head, each of electrostaticactuators includes a diaphragm doubling as or including a first electrode forming a wall surface of a discharge room communicating with a nozzle discharging a drop, and a second electrode opposing the first electrode. The diaphragm is deformed by generating an electrostatic force between the first electrode and the second electrode. The first electrodes or the second electrodes of the electrostatic actuators are combined electrically. Differently polarized potentials are applied to the first electrode and the second electrode upon discharging the drop.